

REMARKS

OBJECTIONS TO THE SPECIFICATION

The Office action states, “[t]he *abstract* of the disclosure is objected to because on page 25...” (emphasis added). The abstract does not appear on page 25 of the disclosure, but rather on page 62. It is Applicant’s understanding that reference to the abstract was not intended. Accordingly, Applicant responds to the substance of the objection below.

The Office action maintains that paragraph 55 of the detailed disclosure contains contradictory statements and requires correction. Applicant maintains the position that the statements quoted in the Office action are not contradictory. However, Applicant has amended the specification in response to the objection to expedite prosecution.

CLAIM OBJECTIONS

Claims 1, 17, 25 and 28 were objected to because the limitation reciting that a first amplitude increases at a rate substantially equivalent to the rate of decrease in the second amplitude in these claims is in disagreement with “substantially equivalent slopes,” found on page 25, line 4 of the detailed description. The sentence beginning on page 25, line 4 has been deleted. Therefore, claims 1, 17, 25 and 28 are not in disagreement with the detailed description. Thus, Applicant respectfully requests that the objection to these claims be withdrawn.

CLAIM REJECTIONS - 35 U.S.C. § 102

Claims 1-3, 14, 17, 18 and 25 were rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 6,380,783 issued to Chao et al. (*Chao*). Applicant submits claims 1-3, 14, 17, 18 and 25 are not anticipated by *Chao* for at least the reasons set forth below.

The Manual of Patent Examining Procedure (“MPEP”), in § 2131, states:

“A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” *Verdegaal Bros. V. Union Oil Co. California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). “The identical invention must be shown in as complete detail as is contained in the ... claim.” *Richardson v. Suzuki Motor Co.*, 869 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

Thus, under 35 U.S.C. § 102, a claim is anticipated *only if* each and every element of the claim is found in the cited reference and the cited reference must show the invention in as complete detail as contained in the claim.

Claim 1 recites, in part, the following:

charge storage circuitry to maintain a first amplitude of a first interrelated control signal and a second amplitude of a second interrelated control signal;
amplitude circuitry coupled to said charge storage circuitry to increase the first amplitude at a rate substantially equivalent to a rate of decrease in the second amplitude, to change an amplitude contribution of a reference clock phase, within high and low amplitude boundaries of a substantially small signal region of a transfer characteristic of phase control circuitry of a phase interpolator.

Thus, Applicant claims charge storage circuitry to maintain a first amplitude of a first control signal and a second amplitude of a second control signal. In addition, Applicant claims amplitude circuitry to increase the first amplitude at a rate substantially equivalent to a rate of decrease in the second amplitude. Claim 25 recites similar limitations.

The Office action states that *Chao* discloses first and second control signals used to control the increase and decrease in charge. An allegation that *Chao* anticipates claim 1 because of control signals being used to control the increase and decrease in charge misses the mark. Applicant has not claimed control signals used to control an increase or a decrease in charge. Rather, Applicant claims charge storage circuitry **to maintain respective amplitudes** of first and second control signals. There is no indication in the Office action or in *Chao* to suggest that *Chao* teaches charge storage circuitry to maintain respective amplitudes of first and second

control signals. Given that *Chao* fails to teach or suggest at least one limitation of claim 1, Applicant respectfully submits claims 1 and 25 are not anticipated by *Chao*.

Claims 2, 3 and 14 depend from claim 1. Given that dependent claims necessarily include the limitations of the claims from which they depend, Applicant submits claims 2, 3 and 14 are not anticipated by *Chao* for at least the reasons set forth above.

Claim 17 recites, in part, the following:

bounding the amplitudes of the first interrelated control signal and the second interrelated control signal between a high amplitude boundary and a low amplitude boundary, to change the phase of the interpolated clock signal with a substantially analog transition.

The Office action fails to address whether *Chao* teaches or discloses the above-cited limitation of claim 17. Applicant contends that *Chao* does not teach or disclose this limitation, at the least.

Therefore, Applicant submits claim 17 is not anticipated by *Chao*.

Claim 18 depends from claim 17. Given that dependent claims necessarily include the limitations of the claims from which they depend, Applicant respectfully submits claim 18 is not anticipated by *Chao* for at least the reasons set for above with respect to claim 17.

CLAIM REJECTIONS - 35 U.S.C. § 103

Claims 11, 21, 22, and 27-30 were rejected under 35 U.S.C. § 103(a) as being unpatentable over *Chao*. Applicant submits claims 11, 21, 22, and 27-30 are not obvious in view of *Chao* for at least the reasons set forth below.

Claim 11 depends from claim 1. As discussed above, *Chao* fails to disclose at least one limitation of claim 1. Thus, *Chao* fails to render claim 11 obvious for at least the reason that *Chao* fails to disclose at least one claim limitation.

Claims 21 and 22 depend from claim 17. As discussed above, *Chao* fails to disclose at least one limitation of claim 17. Thus, *Chao* fails to render claim 17 obvious for at least the reason that *Chao* fails to disclose at least one claim limitation.

Claim 27 depends from claim 25. As discussed above, *Chao* fails to disclose at least one limitation of claim 25. Thus, *Chao* fails to render claim 27 obvious for at least the reason that *Chao* fails to disclose at least one claim limitation.

Claims 29 and 30 depend from claim 28. Claim 28 recites limitations similar to claim 17. In particular, claim 28 recites bounding the amplitudes of the first interrelated control signal and the second interrelated control signal between a high amplitude boundary and a low amplitude boundary, to change the phase of the interpolated clock signal with a substantially analog transition. As discussed above, *Chao* does not teach these limitations. Given that *Chao* fails to disclose at least one limitation of independent claim 28, *Chao* cannot render claims 29 and 30 obvious.

ALLOWABLE SUBJECT MATTER

The Office action states that claims 4-10, 12, 13, 15, 16, 19, 20, 23, 24 and 26 contain allowable subject matter. Applicant agrees that these claims contain allowable subject matter. These claims were objected to because they depend from rejected base claims. However, given Applicant's traversal of the rejections of the respective base claims, Applicant respectfully requests that the objections to these claims be withdrawn.

CONCLUSION


In view of the remarks set forth above, Applicant submits that claims 1-30 are in condition for allowance and such action is respectfully solicited. The Examiner is respectfully requested to contact the undersigned by telephone if it is believed that such contact would further the examination of the present application.

Please charge any shortages and credit any overcharges to our Deposit Account number
02-2666.

Respectfully submitted,
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Date: _____

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